

ABSTRACT

Provided is a gas flux measuring device measuring a region, such as forest, as a measuring object with no influence by concomitants and with high responsibility and excellent measuring stability. The device comprises a laser beam source, laser output controller, wavelength modulation controller, first light receiver, first direct current component detector, first wavelength modulation demodulator, optical system, reference cell, second light receiver, second direct current component detector, second wavelength modulation demodulator, third wavelength modulation demodulator, analyzer, adder, temperature measuring means and pressure measuring means. The device further comprises a flow velocity measuring means directly measuring horizontal 2-directional flow velocity components and a vertical directional flow velocity component of a gas flow in the measuring region and putting out these measurement signals into the analyzer. Based on the signals inputted from the flow velocity measuring means, the analyzer makes analysis based on the eddy correlation method and obtains, by calculation using this analysis result, a momentum flux and concentration of the measuring object gas.